Second year of Five Years integrated M. Sc. (Physics)

M. Sc.- II, Semester III	**L**	**T**	**P**	**C**
MS 215 (Basic Sciences Electives) : Introduction to Linear Algebra	**3**	**0**	**0**	**3**

- **SYSTEM OF LINEAR EQUATIONS** **(08 Hours)**
  Matrices and elementary row operations, Gaussian elimination.

- **VECTOR SPACES** **(10 Hours)**
  Subspaces, Basis and dimension, co-ordinates.

- **LINEAR TRANSFORMATION** **(10 Hours)**
  Representation of linear transformation by Matrices, rank-nullity theorem, duality and transpose, Determinant.

- **EIGEN VALUES & EIGEN VECTORS** **(14 Hours)**
  Minimal & characteristic polynomials, diagonalisations, Cayley Hamilton theorem

(**Total Contact Time (Theory): 42 Hours)**

BOOKS RECOMMENDED :

1. **Lang, S.,** *Introduction to Linear Algebra* (Undergraduate text in Mathematics), Springer, 1986.
2. **Krishnamurthy, Mainra, V. V. P. and Arora, J. L**. *An Introduction to Linear Algebra*, Afiliated East-West, 1976.
3. **Hoffman, K. and Kunze, R.,** *Linear Algebra*, PHI, 1991.
4. **Strang, G.,** *Linear Algebra & Its Applications*, 4th edition, Thomson Brooks/Cole, 2006.
5. **Noble, B. And Daniel J.W**., *Applied Linear Algebra*, Prentice Hall, 1977.